

REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 22-93 are pending, with Claims 71-72 amended and Claims 73-93 added by the present amendment. Claims 71-72 are amended to correct a spelling error. New Claims 73-93 are identical to previously pending Claims 1-21.

In the outstanding Official Action of March 20, 2006, Applicants' response of September 21, 2005, which cancelled all claims and added new claims, was found to be non-responsive due to a finding that the new claims were drawn to a different embodiment than the previously examined claims.

Applicants acknowledge with appreciation the telephone interview of April 5, 2006. During the telephone interview, Applicants' representative traversed the finding that Applicants' new claims (Claims 22-72) were drawn to a different embodiment than the previously examined claims (Claims 1-21). Applicants' representative noted that Claims 22-72 corresponded to previously pending Claims 1-21, albeit rewritten for simplicity and to focus on either a mobile or a transmitter, rather than an end-to-end system. As the telephone interview was inconclusive, Applicants re-add Claims 1-21 (now Claims 73-93) in response to the restriction requirement and to further prosecution.

Applicants traverse the restriction requirement for the reasons above and provisionally elect claims 73-93, corresponding to cancelled claims 1-21.

In the Office Action of April 21, 2005, Claim 21 was rejected as being anticipated by Kumar (U.S. Patent No. 6,269,080); Claims 1-4, 6-9, 11-14, 18-20 were rejected as being unpatentable over Kumar in view of Fukushima et al. (EP 1006689, hereinafter Fukushima); Claims 5, 10 and 15 were rejected as being unpatentable over Kumar in view of Fukushima and in further view of Marturano et al. (U.S. Patent No. 5,636,230, hereinafter Marturano);

Claims 16-17 were rejected as being unpatentable over Kumar in view of Chiu et al. (U.S. Patent No. 6,505,253, hereinafter Chiu) in view of Fukushima; and Applicants' arguments with regard to Claims 1-21 were considered moot in view of the new grounds of rejection.

The specification and Figures were amended in Applicants' response of September 21, 2005 to correct informalities noticed by Applicants. No new matter was added. Applicants request confirmation that the amendments to the specification and Figures of September 21, 2005 have been entered.

As discussed during the telephone interview of April 5, 2006, Claims 22-71 substantially correspond to cancelled Claims 1-21 (and now re-added Claims 73-93), albeit rewritten in more simple English to more clearly describe and distinctly claim Applicants' invention. Support for new Claims 22-71 is found in Applicants' originally filed specification.<sup>1</sup> No new matter is added.

Briefly recapitulating, Claim 22 is directed to a communications method including a) receiving, at an information distribution apparatus, one of a plurality of said retransmission request signals from a corresponding one of said plurality of wireless terminals. The method also includes b) notifying, by the information distribution apparatus, another of the plurality of wireless terminals that a retransmission request signal corresponding to a specific packet has been received; and c) retransmitting, by the information distribution apparatus, the specified packet at a predetermined timing. Claim 38 is directed to a corresponding device. Claims 54 and 64 are directed to a corresponding mobile terminal method and device, respectively. Applicants' claimed invention allows for more efficient network control by reducing unnecessary retransmission requests.

Claim 73 (previously pending Claim 1) recites (a) transmitting a retransmission request for information which requires retransmission, from an arbitrary wireless terminal to

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<sup>1</sup> Specification, Figures 4-6 and 9.

the information distribution apparatus, at a timing determined by the wireless terminal when the information which requires retransmission is generated; (b) after receiving the retransmission request for the information from the arbitrary wireless terminal within the service area, notifying retransmission information indicating the information requested by the retransmission request with respect to each of the wireless terminals within the service area from the information distribution apparatus, and retransmitting the information requested by the retransmission request from the information distribution apparatus at a predetermined timing; and (c) making no retransmission request for the information from each of the wireless terminals if the retransmission information is received by each of the wireless terminals before the predetermined timing, so that each of the wireless terminals receives the information retransmitted from the information distribution apparatus at the predetermined timing. In the invention of Claim 73, each of the wireless terminals reads the retransmission request that is relayed by the transmitter. If another wireless terminal also requires the information that has been requested for retransmission, this wireless terminal does not make a redundant request but just waits for the retransmitted information that was the subject of the original retransmission request. In this way, as with Claim 22, repetitive retransmission requests are avoided.

Kumar describes a method for multicast file distribution and synchronization in data networks. As shown in Figure 4, an FDSP (file distribution process) 400 starts where an FDSP server selects one of a plurality of FDSP clients as an active receiver. At the conclusion of a multicast transmission from the FDSP server, the active receiver generates negative and positive acknowledgements to request retransmission of data packets lost in the first data transmission.

Only one FDSP client is designated as the active receiver at any given time and thus it is only the FDSP client that is allowed to request retransmission of lost data packets from the

FDSP server. The FDSP server response to the retransmission request by retransmitting the missing data segment to the active receiver. The FDSP server may retransmit the data packets in unicast or multicast transmission. Once the active receiver obtains all of the file data segments, the FDSP server determines if there are any other FDSP clients with incomplete data files. If the FDSP server finds that there are more FDSP clients with incomplete data files, the FDSP server selects a new active receiver. From this point, the next active receiver can request data segments that it has not received. The process continues until all FDSP clients receive all of the data segments from the data file transmitted. When all FDSP clients have the complete data file, the process terminates until the next data file is sent from the FDSP server.<sup>2</sup>

The active receiver selection can be carried out in two different ways depending on the topology of the network. One embodiment involves a process to select an active receiver in a tree topology-based network and a second embodiment involves a process to select an active receiver in a start topology-based network.<sup>3</sup>

After selection of the active FDSP client, the FDSP server starts the data distribution process, where the FDSP server sends a unicast NACK solicitation message to prepare the active receiver for data distribution. The NACK solicitation message communicates the file size information to the active receiver. The active receiver responds by sending an NACK message to request specific segments of the data file required by the active receiver. If the file is being distributed for the first time, the active receiver requests all segments of the data file. If the FDSP server does not receive an NACK from the active receiver within a timeout period of  $T_2$ , the FDSP server resends the NACKs solicitation message. If the NACK solicitation message has been transmitted more than X times, the FDSP server generates an alarm and terminates the data distribution process. However, if the FDSP server receives the

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<sup>2</sup> Kumar, column 7, lines 1-42.

<sup>3</sup> Kumar, column 8, lines 11-16.

NACK from the active receiver within the timeout period  $T_2$ , the FDSP server divides the data file into smaller data segments. The data segments are sequentially numbered and distributed by a multicast signal to all FDSP clients.<sup>4</sup>

If the active receiver detects that it has received all data signals of the file the active receiver transmits an unsolicited NACK to notify the FDSP server it has completed the data transmission. However, if the active receiver detects that it has not received all segments of the data file, the active receiver resends a NACK to the FDSP server. The NACK sent by the active receiver is used to request the retransmission of packets lost during the data distribution process. Here, the NACKs are only sent from the active receiver, as the active receiver is not responsible for any retransmission requests for other receivers.<sup>5</sup>

The NACK message includes a data segment number and bit map. The FDSP server processes the data in the NACK sent from the active receiver and retransmits the specified data packets. The retransmission should be a multicast data transfer as each FDSP client is set to receive data packets not yet received by that particular FDSP client. The unsolicited NACK is also known as a token release message which is essentially an NACK message with a “done” flag raised. After receiving the unsolicited NACK message, the FDSP server then identifies another FDSP client as the active FDSP client and the process repeats until all FDSP clients have received any and all missing data packets.

However, Kumar does not disclose or suggest Applicants’ separate steps of b) notifying, by the information distribution apparatus, another of the plurality of wireless terminals that a retransmission request signal corresponding to a specific packet has been received; and c) retransmitting, by the information distribution apparatus, the specified packet at a predetermined timing. That is, in Kumar, the base station merely responds to the active station’s request for retransmission by retransmitting the packet in question. Kumar does not

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<sup>4</sup> Kumar, column 12, line 50 – column 13, line 20

<sup>5</sup> Kumar, column 12, line 42 – column 14, line 67

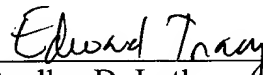
first notify wireless terminals that a retransmission request signal corresponding to a specific packet has been received by one of the group of wireless terminals. MPEP § 2131 notes that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also MPEP § 2131.02. “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Because Kumar does not disclose or suggest all the features recited in Claim 93 (previously Claim 21), Kumar does not anticipate the invention recited in Claim 93, and all claims depending therefrom. Regarding rejected Claims 1-20 (now Claims 73-92), Applicants have considered the remaining applied references and submit that none of these references cure the deficiencies of Kumar. MPEP §706.02(j) notes that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Also, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Without addressing the first two prongs of the test of obviousness, Applicants submit that the Official Action does not present a *prima facie* case of obviousness because none of the applied references disclose all the features of Applicants’ claimed invention.

Regarding the outstanding restriction requirement, Applicants traverse by noting that Claims 22-72 correspond to Claims 1-21, albeit rewritten in more simple English expressions.

Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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